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The Intrabiliary Rupture of Hydatid Cyst of The Liver

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Summary

The intrabiliary rupture of hydatid cyst of the liver is a severe and relatively frequent complication. In this study six similar cases are presented. 4 of the cases had hydatid cyst surgery before the admission. The obstructive jaundice, cholangitis and unclosed bile fistula are the most frequent clinical findings. Ultrasound is very useful for the diagnosis. In the cases of space occupying lesions of the liver with wide choledochus (1.1 cm >) the intrabiliary rupture of hydatid cyst can be suspected by ultrasonographic examinations. Surgical therapy as the capitonnage combined with the resection of the projecting dome of the cyst and T tube application remains a method which gives good results and has low mortality and morbidity.

Introduction

Hydatid disease is a parasitic infection by *echinococcus granulosus*. The disease is endemic in South America the Far East, the Middle East and Eastern Europe¹⁾. It attacks the right lobe of the liver most commonly. The uncomplicated hydatid cysts are asymptomatic. The symptoms occur depending on the location of the cyst. The complications of the cysts are rupture, secondary infection and suppuration. The rupture of hydatid cyst of the liver into the biliary tract is a severe and relatively frequent complication with an incidence of 6-19%²⁻⁷⁾. Dew reported the first case in 1928 and many reports have been published since 1965⁸⁾.

In this study we present six cases of hydatid disease with the intrabiliary rupture and discussed the diagnosis and treatment with a brief review of relevant literature.

Case 1

A 44 years old female patient was admitted to our clinic with abdominal pain on May 25th, 1984. She had a history of lung echinococcus operation two years ago. This patient had fever and right upper abdominal pain for last three days. The Murphy's sign, leucocytosis, slight hyperbilirubinemia (2.5 mg/dl) were the positive pathological sings. Plain abdominal roentgenogram was normal. Intravenous cholangiography was unsuccessful. She was treated medically with the di-

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agnosis of the acute cholecystitis. On the second days of the therapy high fever, leucocytosis (16000/mm) and the Murphy's sign persisted and we decided to operate urgently. On exploration, an echinococcus cyst on the left lobe of the liver in the size of 6×4 cm was found. Cyst-fluid was clear. The cyst was evacuated and irrigated with 20% saline solution to kill the daughter cysts. After this procedure germinative membrane was taken out. Capitonage of the residual cavity was combined with resection of the projecting dome. Choledochus was 1.8 cm diameter. Choledochotomy was revealed daughter cysts and cystic debris in the choledochus. After cleaning a T tube was placed. She had an uneventful recovery and no problems on subsequent follow up.

Case 2

A 51 years old male patient was admitted to the surgical clinics with jaundice and anorexia on June 16th, 1988. It has been learned from his history that he had jaundice periodically since last ten years. Physical examinations has shown jaundice on the skin and sclera. Liver was 2 cm palpable below the costal margin. The high alkaline phosphatase levels and mild hyperbilirubinemia (total 6.6 mg/dl, direct 5.3 mg/dl) were determined. Ultrasonography has shown 10×8 cm space occupying cystic lesions in the right liver lobe. Weinberg test was positive. On the laparotomy the cyst-fluid was found stained with bile, the similar procedures were performed. The cyst content was

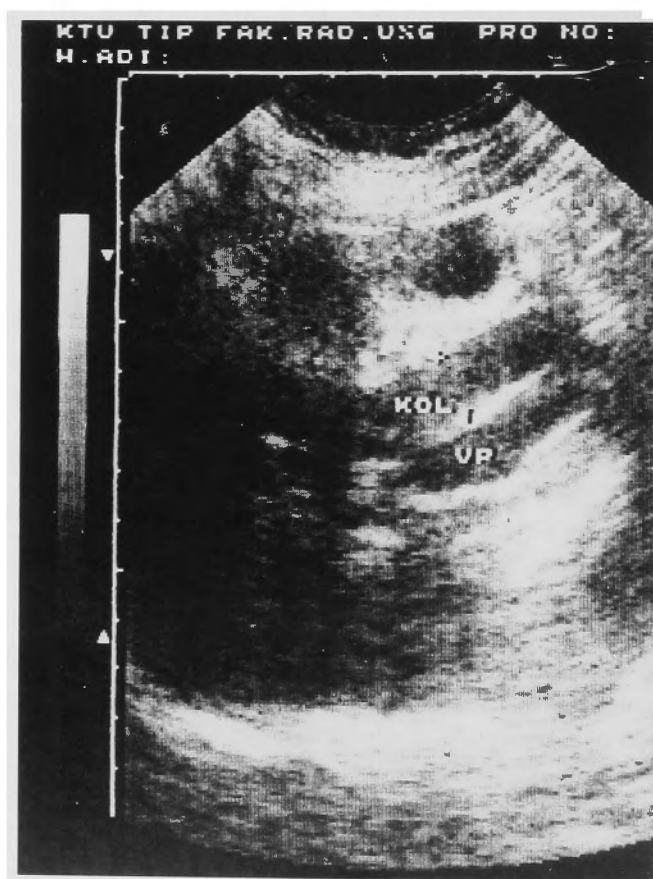


Fig. 1 Ultrasound shows slight dilatation (1.4 cm) of the choledochus in the fourth case.

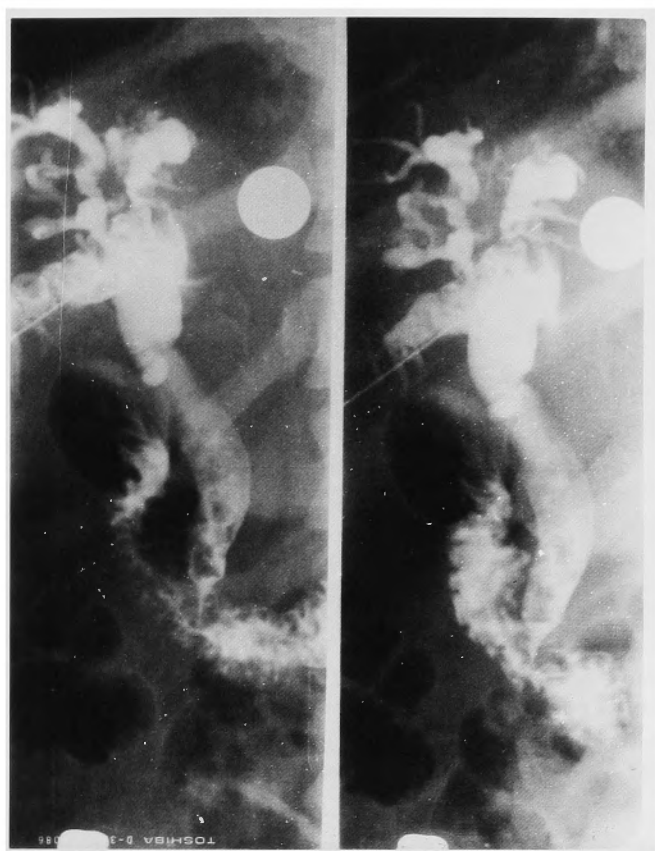


Fig. 2 Multiple filling defects by the percutaneous transhepatic cholangiography in the fourth case.

killed with 20% saline solution and evacuated. The germinative membrane of the cyst was taken out. The observation of cyst wall did not show any large bile duct. Capitonnage and tube drainage were performed. Choledochus was 1.2 cm wide. Choledochotomy showed the similar findings as case one. Cholecystectomy and T tube drainage were performed. The patient did very well postoperatively. He was discharged on July 7th, 1988.

Case 3

A 32 years old male patient was admitted to the internal medicine clinics on June 15th, 1991 with the complains of abdominal pain and fever. He had right abdominal pain and intermittent fever during the last two weeks. Fever and jaundice of skin were positive signs on physical examination. On ultrasound examination a 6 × 4 cm cystic lesion in the right lobe of the liver was found. Weinberg test was positive. Laparotomy was performed with the diagnosis of hydatid cyst of the liver. The cyst material was infective. Tube drainage was performed and appropriate antibiotics were given. Bile fistula developed in the postoperative follow-up period. The output of the fistula was 150–200 ml daily. He was treated with total parenteral nutrition. But fistula output did not cease. Repeated ultrasonography was found normal. Since the fistula did not resolve with conservative methods laparotomy was performed. The choledochus was 1.1 cm wide and the daughter cysts were observed in it. Cholecystectomy, T tube drainage were performed and the postoperative

course of the patient was very well.

Case 4

9 years old female patient was admitted to our clinic on July 5th, 1991 with bile fistula. She had the history of the liver hydatid cyst operation one year ago in one of the country hospitals. Postoperatively she developed bile fistula through the drain opening 200 ml daily. Mild hyperbilirubinemia (total 5.2 mg/dl, direct 3.5 mg/dl) elevated alkaline phosphatase, slightly increased liver transaminase were detected. Ultrasonography showed slight dilatation of biliary tree (choledochus 1.4 cm wide, Fig. 1). In percutaneous transhepatic cholangiography multiple filling defects were found (Fig. 2). We have seen similar findings with previous cases on laparotomy and same operation was performed.

Case 5

A 82 years male patient was admitted on April 10th, 1992. He had fever and jaundice since last three mounts and 12 years ago he had an operation of the hydatid disease in liver. Fever up to 37.8°C, jaundice and 2 cm palpable liver were found on physical examination. Leucocytosis, slight hyperbilirubinemia, increased alkaline phosphatase were determined. Computed tomography showed the daughter cysts in the gallbladder (Fig. 3). The case was treated conservatively for two days and operated on the third day. Many daughter cysts was found in the gallbladder and in the choledochus. Cholecystectomy and T tub application after the cleaning of the choledochus was performed. On April 24th, 1992 he was discharged from the hospital.

Case 6

A 29 years old male patient was admitted with fever, chills and jaundice. It has been learned that he had viral hepatitis (type A) three months ago. He was referred from a country hospital just after he developed fever, chills and jaundice. Jaundice, 8 cm hepatomegaly, 16000/mm

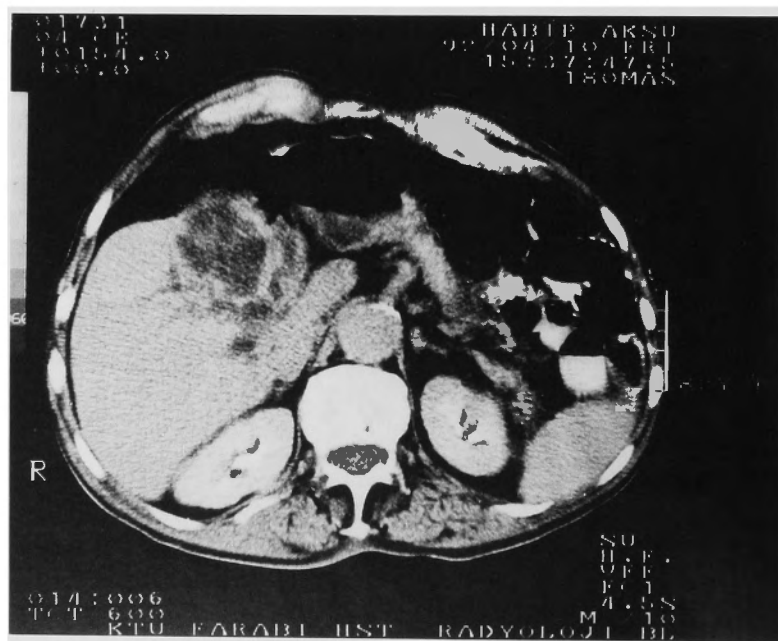


Fig. 3 The daughter cysts in the gallbladder by computed tomography in the fifth case.

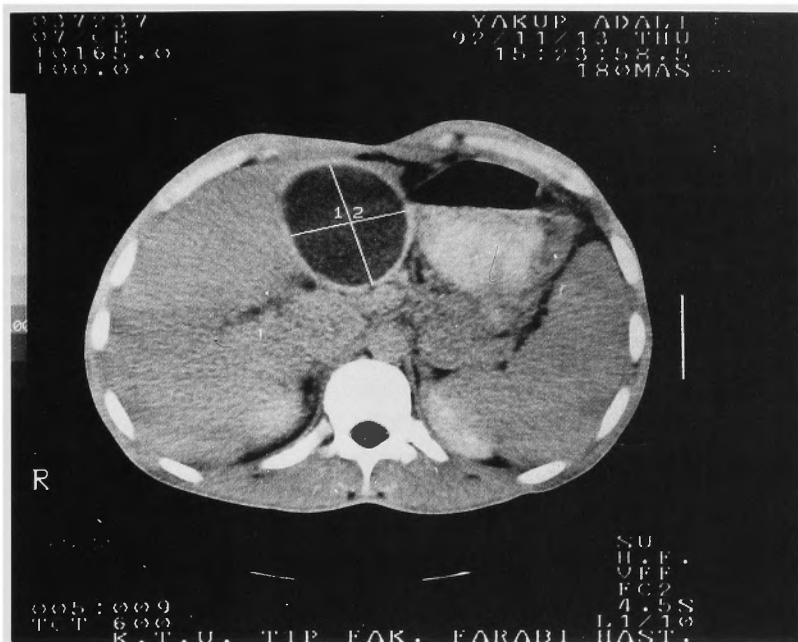


Fig. 4 Hydatid cyst as a space occupying lesions in the right lobe of the liver by computed tomography.

leucocytosis, severe increase of serum bilirubin, alkaline phosphatase, and transaminase were found. Hepatitis surface antigen was negative. Weinberg test was positive. Ultrasonography and computed tomography showed cystic lesion at the hilus and 3 cm wide choledochus (Fig. 4). The patient treated three days conservatively with parenteral fluid and appropriate antibiotics. On the laparotomy an infected hydatid cyst was observed at the hilus of the liver. We planned tube drainage for the management. Exploration of the common bile duct revealed many daughter cysts and the germinative membrane. Cholecystectomy and T tub application were performed. After 6 weeks he was discharged.

Comment

The diagnosis of hydatid disease with intrabiliary rupture can be made easy through the development of new radiologic equipments. But the history taking is the first step of diagnosis. Four of our six cases had hydatid cyst operation before the admission.

The hydatid cyst can rupture into the biliary tract, and cyst fluid escapes into the biliary tract with daughter cyst discharged into the common bile duct, causing biliary colic, obstructive jaundice and cholangitis²⁻⁷. On admission one of our cases had biliary colic while other three had symptoms of obstructive jaundice and cholangitis. The first case was treated with the diagnosis of cholecystitis before the laparotomy which shown he had hydatid disease instead cholecystitis. In the literature hydatid disease mimicking acute cholecystitis with hepatobiliary scanning using ^{99m}Tc-HIDA method exists⁹. In the cases with permanent bile fistula after the hydatid cyst operation of the liver the intrabiliary rupture of the hydatid cyst can be suspected. Our two cases had the same clinical presentation.

Ultrasonography, computed tomography, magnetic resonance imaging, endoscopic retrograde cholangiopancreatography (ERCP), percutaneous transhepatic cholangiography are the new developed diagnostic methods of hydatid disease of the liver and its complications in the last decade¹⁰⁻¹³). Ultrasonography is the best, easy and cheap method for the diagnosis of hydatid disease with the intrabiliary rupture. Except two of our six cases ultrasonography gave us good results. We found through the ultrasonography and the laparotomy wide choledochus (1.1 cm >) in five patients. If the space occupying lesions of the liver with the wide choledochus (1.1 cm >) by ultrasonography is observed the hydatid cyst of the liver with the rupture into the biliary tract must be considered in the differential diagnosis.

The treatment of hydatid cyst with intrabiliary rupture is controversial. Radical resection as the cystectomy, lobectomy, obliteration of residual cavity with cystobiliary disconnection, restoration of the patency of the biliary tract which was obstructed by daughter cysts and remnants of the laminated membrane and T tube drainage^{2-7,14,15}). Recently these cases can be treated by ERCP¹⁶⁻¹⁸). Our experience for the therapy in noninfected cysts are conservative therapy including appropriate antibiotics and fluids for 2-3 days. As a surgical therapy obliteration of cyst cavity with capitonnage and resection of projecting dome, choledochus exploration (in the condition of wide choledochus) with T tube application can be selected. In infected cases we prefer tube drainage for the management of the cyst.

We found no relationship between the intrabiliary rupture and color of the cyst fluid. We have no mortality with this methods. In severely ill patients, and in cases with postoperative bile fistula ERCP can be the first method of early conservative therapy.

Postoperatively we use mebendazol for one year to prevent the recurrences of hydatid cyst since last five years¹³).

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